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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HOEL, MATTHEW D

ART UNIT	PAPER NUMBER
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3713

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/657,650	Applicant(s) PACEY ET AL.	
	Examiner Matthew D. Hoel	Art Unit 3713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed Mar. 3rd, 2006, have been fully considered but they are not persuasive. The applicants state that '895 is drawn to dexterity games such as a space shooting game, a golf game, and a boxing game. The examiner notes that the present application is directed to sports games such as horse racing, billiards, and roulette. The applicants state that '895 does not suggest "a system memory containing physical object data and simulation rule data" or "a central processor for processing said physical object data to produce a realistic depiction of gaming activity on said display." The examiner respectfully disagrees. '895 mentions a simulated driving game in which a player provides input to veer a simulated vehicle away from a simulated obstacle (Col. 5, Lines 18 to 21). Such a game would clearly have simulation rule data as it would employ collision detection, which is widely known in the art of video games. The applicants state in the specification that physical object data can include mass, dimensions, elasticity, and the center of gravity (Page 9). The simulated vehicle embodiment of '895 would clearly include dimensions and center of gravity so that the collision detection could detect when the simulated vehicle collides with the simulated obstacle. The motion of the vehicle as a whole would most likely be calculated based on the motion of its center of gravity, with the dimensions being used to detect when the simulated vehicle collides with the simulated obstacle. Physical object data could also include positional coordinates in two- or three-dimensional space. The physical object

data of the simulated vehicle embodiment of '895 would also include positional coordinates to track the motion of the simulated vehicle. The golf embodiment of '895 would likewise use positional coordinates as physical object data (Col. 8, Lines 1 to 39, golfball can land on different areas on green). The applicants state that '446 does not suggest "receiving a wager" or "awarding a payoff based on an outcome of said gaming activity." This is irrelevant as these elements were supplied by '895 in the 103 combination. The hammer-throwing game of '446 is clearly a game of dexterity (Abst., Figs. 5A-D), and so is analogous art to '895. The game of '446 includes physical object data such as positional coordinates, angle, and direction (Figs. 3A-C, 4A-H). '446 also has simulation rule data (calculating means, result information setting means, decision means, graphic command issuing means, variable setting means, linear and angular displacement acquiring means, and polygon information managing means, Fig. 2). '446 discloses a central processor for processing physical object data (CPU 1, Fig. 1). '895 suggests physical object data and simulation rule data; '446 explicitly teaches physical object data and simulation rule data. The claims were interpreted as broadly as possible without reading the limitations of the specification into the claims. The applicants state that '895 does not teach "simultaneously simulating and displaying in real time an interaction of simulated physical objects using a representation of three-dimensional forms." This was remedied in the 103 combination with '446, which is analogous art to '895 as shown above. The three-dimensional interactions shown in '446 Figs. 5A-D are between the hammer thrower and the hammer. The examiner notes that the depictions of '446 are two-dimensional representations of three-

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dimensional events. Likewise, the interactions shown in the drawings of the present specification are two-dimensional representations of three-dimensional horse racing and roulette events (Page 5, Lines 11 to 13). Nowhere are actual three-dimensional images such as holographic displays specified or claimed. The applicants state that the references do not teach a physics engine; exactly what a physics engine is is not claimed. '895 uses physical data such as distance, angle, and positional coordinates to accurately simulate the interaction between the hammer thrower and the hammer and the travel of the hammer when it is thrown. Hardware or software using physical data to simulate physical interactions would reasonably be interpreted by one of ordinary skill in the art as a physics engine. The applicants try to demonstrate that '895 and '446 are not analogous art, as they are listed in separate classes. That they are analogous art is shown above. '895 is primarily listed in 463/7, a game requiring an element of a participant's physical skill or ability. '446 is primarily listed under 463/2, a game including a simulated projectile. '446 can require an element of a participant's physical skill or ability as the hammer throw game requires the player to properly time when the hammer should be released (Col. 2, Lines 15 to 50). '446 improves on this by indicating a direction in which the hammer will travel if it is released at any particular time, but the game still requires timing and hand-eye coordination by the player to accurately throw the hammer (Col. 2, Line 54 to Col. 3, Line 27). '895, on the other hand, can involve a simulated projectile (simulated golf ball, Col. 8, Lines 1 to 39; torpedo in space game, Col. 10, Lines 42 to 46). The examiner notes that the classes and subclasses are general in nature and do not reflect all of the latest developments in video gaming. For

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example, there are no particular subclasses for gaming consoles like the Xbox TM or for interactive role-playing games such as The Sims TM. The subclasses are generally geared for arcade and gambling games. The test for analogous art is whether the references solve similar problems. '446 is a dexterity game ideal for use with the hybrid game of '895, which uses a dexterity game as one of its games. There is nothing in the references that teaches away from combination or that would render either reference inoperable for its intended use. The suggestion for motivation has already been discussed. Regarding the allegation that '565 (73/379.04) is not analogous art, the examiner notes that the applicants cited a very similar reference to '565 in their information disclosure statement, WO 01/35208 A1 or PCT/KR00/01158. '208 states in the abstract that the motion capture system can be used in fields such as game character production or digital animation production. '565 would clearly have lended itself to combination with '895 and '446. Such a motion capture system as '565 would make the depiction of the hammer thrower more realistic by simulating the actual angles of joints and limbs and rotational speeds of an actual hammer thrower, rather than using the depiction of an artist who may or may not be familiar with the sport. '565 is meant to be used for an accurate simulation of sport (Abst.). The examiner respectfully disagrees with the applicants as to the application's condition for allowability.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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3. A person shall be entitled to a patent unless –

4. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by Fentz, et al. (U.S. patent 5,775,993 A).

6. As to Claim 23: '993 teaches a method of operating a gaming machine (Abst.). '993 teaches accepting a wager (coin input 48, bill acceptor 49, Fig. 4). '993 teaches accessing physical object data (ball location, rate of movement, Col. 13, Lines 7 to 14, Col. 14, Lines 9 to 18, Lines 42 to 53). '993 teaches accessing simulation rule data (twenty random predetermined bounce patterns, Col. 11, Line 30 to Col. 12, Line 50). '993 mathematically models game actions of one or more physical objects within a simulation world using the physical object data and the simulation rule data (bounce patterns recomputed consistent with off-line calibrated values, Col. 12, Line 66 to Col. 13, Line 6; calculations shown in Cols. 13 and 14). '993 displays a visual depiction of the game actions (Figs. 10, 11). '993 determines if the game actions meet winning conditions (ball can come to rest on winning pocket, Col. 4, Lines 21 to 31). '993 awards a payoff if the game actions meet winning conditions (Col. 5, Lines 46 to 52). '993 determines if the game actions meet winning conditions prior to displaying the visual depiction of the game actions (random winning number calculated 120, Fig. 8a; bounce pattern randomly selected, Col. 10, Lines 56 to 58). These steps are taken before the motion of the ball is displayed (Fig. 9c).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1, 2, 5, 7, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciano, et al. (U.S. patent 6,050,895 A) in view of Oshima (U.S. patent 6,045,446 A).

9. As to Claim 1: Luciano in '895 discloses all of the elements of Claim 1, but lacks specificity as to processing physical object data and simulation rule data, and realistically depicting gaming activity on a display. Luciano in '895 teaches a gaming machine (Fig. 1A) with means for accepting a wager (coin acceptor 106, bill validator 108, and card reader 112, Fig. 1A). '895 has a display (104, Fig. 1A). '895 has a means for cashing out the payoff based on an outcome of the gaming activity (3, Fig. 3; Col. 10, Line 67 to Col. 11, Line 1). The game of '895 has a central controller 512 (Fig. 5; Col. 11, Lines 42 to 46). Oshima, however, in '446 teaches physical object data, simulation rule data, and producing a realistic depiction of gaming activity on a display. '446 has physical object data (coordinates, Figs. 3A-C and 4A-H). '446 also has simulation rule data (calculating means, result information setting means, decision means, graphic command issuing means, variable setting means, linear and angular displacement acquiring means, and polygon information managing means, Fig. 2). '446 has a realistic depiction of gaming activity on the display (hammer-throwing field athlete, Figs. 5A-D). It would be obvious to one of ordinary skill in the art to apply the realistic depiction, physical object data, and simulation rule data of '446 to '895. The hammer-

throwing game of '446 is a game of skill. '446 controls the throwing body (athlete) in response to commands from manual operation of the controller and controls the object to be hurled (hammer) in response to commands from manual operation of the controller (Col. 3, Lines 17 to 22). The game of '895 is a hybrid game, at least one part of which involves hand-eye coordination and dexterity (Col. 2, Lines 5 to 15), like the hammer-throwing game of '446. The joystick (118, Fig. 1A) of '895 would be appropriate for controlling the game of '446. The coordination/dexterity portion of '895 can be a sports game (Col. 5, Lines 28 to 31). The advantage of this combination would be to provide a sports-oriented coordination game with a familiar theme such as hammer throwing to stimulate players' interest in playing the gaming machine.

10. As to Claim 2: '446 has a 3-D processor (10, Fig. 1) interacting with the central processor (1, Fig. 1) to facilitate the production of real-world gaming activity on the display (Figs. 5A-D).

11. As to Claim 7: The gaming activity of '446 is a sport (track and field), and the physical object data refers to a participant in a hammer-throwing event (Figs. 5A-D).

12. As to Claim 15: Luciano in '895 teaches a gaming machine (Fig. 1A) with means for accepting a wager (coin acceptor 106, bill validator 108, and card reader 112, Fig. 1A). '446 simultaneously simulates and displays in real time an interaction of simulated physical objects using representations of three-dimensional forms (Figs. 5A-D). '895 teaches evaluating if an outcome meets winning conditions and awarding a payoff if the outcome meets the winning conditions (334, 336, 337, and 338, Fig. 3).

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13. Claims 3 to 6, 8 to 14, and 16 to 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciano ('895) and Oshima ('446) in view of French, et al. (U.S. patent 6,308,565 B1).

14. As to Claim 3: The combination of Luciano ('895) and Oshima ('446) discloses all of the elements of Claim 3, but lacks specificity as to the physical object data including mass and dimensions of at least one simulated object. French, however, in '565 teaches physical object data including mass and dimensions. The physical object data of '565 include mass (Col. 16, Line 62 to Col. 17, Line 8). The player wears beacons or reflectors on his or her body that allow the system to capture movement information (Col. 36, Lines 18 to 50), and the system reports the player's displacement, velocity, and acceleration in absolute terms (Col. 12, Lines 4 to 17), so the data inherently contain the player's physical dimensions. It would be obvious to one of ordinary skill in the art to apply the physical object data of '565 to the combination of '895 and '446. The object data of '565 can be applied to track and field events (Col. 1, Lines 35 to 40; Col. 9, Lines 22 to 24), like the hammer-throwing event of '446. '565 realistically depicts the game event on a display (Col. 8, Lines 23 to 34 and 43 to 52), like '446 (Figs. 5A-D). The advantage of this combination would be to make the depiction of the athletes as realistic as possible by using physical data acquired from actual athletes' performances.

15. As to Claim 4: '565 is capable of providing a virtual reality experience simulating forces encountered by the athlete in real playing conditions (Col. 36, Lines 52 to 58). These forces can include resistance from treading through snow, mud, or waist-deep water encountered in outdoor environments (Col. 37, Lines 45 to 49). This information

can be used for simulated gaming rule data that interact with the physical object data of the player.

16. As to Claim 5: The gaming machine of '446 depicts a three-dimensional simulation of a hammer-throwing event (Figs. 5A-D).

17. As to Claim 6: The processor of '565 is adapted to mathematically model physical object data and the simulation rule data, and then enable a realistic depiction on the display (Col. 8, Lines 23 to 52).

18. As to Claim 8: Luciano in '895 teaches a gaming machine (Fig. 1A) with means for accepting a wager (coin acceptor 106, bill validator 108, and card reader 112, Fig. 1A). Oshima in '446 teaches accessing physical object data, simulation rule data, and producing a realistic depiction of gaming activity on a display. '446 has physical object data (coordinates, Figs. 3A-C and 4A-H). '446 also has simulation rule data (calculating means, result information setting means, decision means, graphic command issuing means, variable setting means, linear and angular displacement acquiring means, and polygon information managing means, Fig. 2). French in '565 teaches mathematically modeling physical object data and the simulation rule data, and then realistically depicting game actions on a display (Col. 8, Lines 23 to 52). '895 teaches evaluating if game actions meet winning conditions and awarding a payoff if game actions meet the winning conditions (334, 336, 337, and 338, Fig. 3).

19. As to Claim 9: '565 accesses motion capture data and uses the data while displaying the visual depiction (Col. 8, Lines 23 to 52).

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20. As to Claim 10: '565 mathematically models games actions, namely sports actions (Col. 1, Lines 35 to 43).

21. As to Claim 11: '565 applies simulation rule data to physical object data to result in a mathematical model of real-world physical object interactions (Col. 36, Lines 52 to 58; Col. 37, Lines 45 to 48; Col. 8, Lines 23 to 52).

22. As to Claim 12: '565 defines physical object data by mass (Col. 16, Line 62 to Col. 17, Line 8; Col. 12, Lines 4 to 17; Col. 36, Lines 18 to 47).

23. As to Claim 13: '565 mathematically represents real-world forces (Col. 36, Lines 52 to 58; Col. 37, Lines 45 to 49).

24. As to Claim 14: In '565 the system 560 of Fig. 27 can display moguls, tree branches, other skiers, etc. to realistically simulate a ski slope. The apparent speed of movement is varied as the subject moves to avoid obstacles (Col. 38, Lines 33 to 39).

25. As to Claim 16: '565 simultaneously simulates and displays an interaction of physical objects using simulation rule data to determine an interaction of simulated physical objects using physical object data (Col. 8, Lines 23 to 52; Col. 36, Lines 52 to 58; Col. 37, Lines 45 to 48).

26. As to Claim 17: '895 teaches comparing the game outcome to a set of predefined outcomes and awarding a payoff if the game outcomes meet the winning criteria (334, 336, 337, and 338, Fig. 3).

27. As to Claim 18: '565 simultaneously simulates and displays physical interactions (Col. 8, Lines 23 to 52). '565 teaches a physics engine in the form of software (Col. 8, Lines 23 to 52; Col. 12, Lines 4 to 17; Col. 36, Lines 52 to 58).

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28. As to Claim 19: '895 teaches a game of chance that can be roulette (Col. 10, Lines 42 to 46).

29. As to Claim 20: '446 simultaneously simulates and displays a sports game (Figs. 5A-D).

30. As to Claim 21: '565 can be used to model physical interactions in basketball (Col. 26, Lines 50 to 51).

31. As to Claim 22: Luciano in '895 teaches a gaming machine (Fig. 1A) with means for accepting a wager (coin acceptor 106, bill validator 108, and card reader 112, Fig. 1A). '565 teaches a physics engine in the form of software (Col. 8, Lines 23 to 52; Col. 12, Lines 4 to 17; Col. 36, Lines 52 to 58); the physics engine of '565 uses physical object data and simulation rule data to numerically simulate an interaction of physical objects. '446 renders a visual display of a simulated interaction using two-dimensional representation of three-dimensional forms (Figs. 5A-D). '895 teaches evaluating if an outcome of an interaction meets winning criteria and awarding a payoff if the outcome meets the winning criteria (334, 336, 337, and 338, Fig. 3).

32. As to Claim 23: The golf embodiment of '895 has paytables with predetermined payout ratios depending on which section of the golf course the ball lands on (Col. 8, Lines 32 to 39).

Response to Arguments

33. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

34. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Hoel whose telephone number is (571) 272-5961. The examiner can normally be reached on Mon. to Fri., 8:00 A.M. to 4:30 P.M.

36. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan M. Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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37. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew D. Hoel, Primary Examiner
AU 3713


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